

Name of work :-	2059 S.R To N.R. Bldg Renovation and repairing of existing Raj green stone floor, kota stone floor, colour work and other miscellaneous work at central vista, Gandhinagar
------------------------	---

SPECIFICATION

Item No.1

Dismantling tiled or stone floors laid in mortar including stacking of serviceable materials and disposal of unserviceable

materials with all lead and lift.

The relevant specification of this item shall be followed as per Item No.20.23 Page No.148 of General Technical Specification booklet of building works.

The rate shall be for a unit of one sq. meter.

Item No.2

Dismantling sanitary fittings like wash basin, W.C. Pan Indian and European type flushing tank etc. including stacking the materials with all lead and lift.

The relevant specification of this item shall be followed as per Item No.20.001 Page No.151 of General Technical Specification booklet of building works.

The rate shall be for of one Number.

Item No.3

Excavation for foundation upto 1.5 m depth including sorting out and stacking ofuseful materials and disposing off the excavated stuff upto 50 Meter lead.(A)
Loose or soft soil

1. Scope of Work

- Setting out of excavation area as per drawings
- Excavation for foundations up to 1.5 m depth below ground level
- Dressing and leveling of bottom surface
- Sorting out excavated materials
- Stacking useful materials separately
- Disposal of surplus/unusable material within 50 m lead

2. Classification of Soil

- Loose / Soft Soil includes:
 - Ordinary soil
 - Sand
 - Silt
 - Clay
 - Gravelly soil (without hard rock or boulders)
- Does not include:
 - Hard rock
 - Soft rock requiring blasting

3. Method of Excavation

- Excavation can be done by:
 - Manual means (spade, pickaxe, etc.)
 - Mechanical means (excavator/JCB), if permitted
- Excavation to be carried out to required:
 - Width
 - Depth
 - Alignment

4. Dressing & Preparation

- Bottom of excavation to be:
 - Properly leveled
 - Rammed and compacted
- Sides to be:
 - Neatly cut
 - Vertical or sloped as required

5. Stacking & Disposal

- Useful excavated earth to be:

- Sorted and stacked separately
 - Kept within site as directed
 - Surplus earth to be:
 - Disposed within 50 meters lead
 - Spread or dumped as instructed by Engineer-in-Charge (EIC)
-

6. Safety & Precautions

- Proper shoring/strutting if required to prevent collapse
 - Dewatering, if necessary, to keep excavation dry
 - Barricading and warning signs around excavation area
-

7. Workmanship

- Work to be executed as per:
 - Approved drawings
 - Standard specifications (CPWD / IS codes)
 - Instructions of Engineer-in-Charge (EIC)
-

8. Measurement

- Unit: Cubic Meter (m³)
 - Measured as:
 - Length × Breadth × Depth of excavation
 - No extra payment for:
 - Lift within specified depth
 - Dressing, leveling, and stacking
-

9. Rate Includes

- Labour and machinery
- Tools and plants
- Dressing and leveling
- Sorting and stacking
- Disposal within 50 m lead

- All incidental charges
-

10. Quality Requirements

- Excavation to exact dimensions
- No over-excavation (if done, to be filled at contractor's cost)
- Proper bottom preparation for foundation work

The rate shall be for of one Cum.

Item No.4

Providing and laying cement concrete 1:3:6 (1cement : 3coarse sand : 6 hand broken stone aggregate 40mm nominal size) and curing complete excluding cost of form work in: [A] Foundation and plinth.

The relevant specification of this item shall be followed as per Item No.5.3.2(A) Page No.38 of General Technical Specification booklet of building works.

The rate shall be for of one Cmt.

Item No.4

Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- hand broken stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth

The relevant specification of this item shall be followed as per Item No.5.3.13(A) Page No.40 of General Technical Specification booklet of building works.

The rate shall be for of one Cmt.

Item No.5

Brick work using common burnt clay building bricks having crushing strength not less than 35kg/sqcm in foundation and plinth in cement mortar 1:6 (1cement : 6fine sand) [B] Conventional

The relevant specification of this item shall be followed as per Item No.6.13(B) Page No.51 of General Technical Specification booklet of building works.

The rate shall be for of one Cmt.

Item No.6

Providing 10mm thick cement plaster in single coat on rough (similar) side of single or half brick walls for interior plastering up to floor two level and finished even and smooth in: [II] Cement mortar 1:3 (1cement : 3sand)

The relevant specification of this item shall be followed as per Item No.17.58(II) Page No.120 of General Technical Specification booklet of building works. Work shall be carried out for 15mm thickness instead of 10mm.

The rate shall be for of one sq. meter.

Item No.7

Filling available excavated earth (excluding rock) in trenches, plinth sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each disposed layer by ramming and watering.

The relevant specification of this item shall be followed as per Item No.4.12 Page No.35 of General Technical Specification booklet of building works.

The rate shall be for of one Cmt.

Item No.8

Refixing of bollard including cutting, hoisting, fixing in position and welding etc. complete.

The bollard including cutting, hoisting, fixing in position and welding etc. complete. The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a Unit of One Number.

Item No.9

Raj green tumbled (600 x 600 or 600 x 900mm) providing and laying tumbled finish "Raj green" avg. 25mm thick in flooring in normal pattern straight or staggered joint with square or rectangular shaped stone. The rate shall include providing 4 to 10mm width joints and filling the same with 1:4 C.M. for two third of the depth avg. 40mm bedding thickness. The rate shall also include providing groove of 3 to 6mm depth from the top and filling the remaining depth with ready mix matching polymer based cementitious grout of approved shade and as per instruction of Engineer in charge.

The relevant specification of this item shall be followed as per Item No.14.43(B) Page No.99 of General Technical Specification booklet of building works. Except material Raj green stone tumbled in place of kota stone.

Water shall confirm to M.1. Cement shall confirm to M.11 and Raj green stone shall confirm to M.49(C). Size of the Raj green up to 60cms long, if necessary. The Raj green shall be of export quality and selected & sorted for colour & texture like river finish.

Care shall be taken while filling the grooves so as adjoin stone does not etc spoiled by cement mortar. If spoils then the same shall be neatly cleaned before handling over. Grooves shall be filled and finished when the flooring is laid or otherwise same shall be filled later on with proper cleaning.

The payment shall be made on No. basis.

Item No.10

Chharoo finish providing and laying brick bat chharoo and screed GSB (ratio of 80:20) over sub base including spreading in uniform layer of 200mm thickness consolidating with compactor or 10 ton roller watering and finishing in level and slope as directed by Engineer in charge.

WORKMANSHIP :

Chharoo shall be laid over sub base to form a uniform thickness of 50mm. The same shall be consolidated with plate compactor or rolled with a roller. Watering shall be done for proper execution and to be finished as per the slope etc. complete.

MODE OF MEASUREMENT:

The rate shall be paid for unit of one Cubic metre basis.

Item No.11

providing and laying tumbled finish "Polished kota stone" avg. 20mm thick in flooring in normal pattern straight or staggered joint with square or rectangular shaped stone. The rate shall include providing 4 to 10mm width joints and filling the same with 1:4 C.M. for two third of the depth avg. 40mm bedding thickness. The rate shall also include providing groove of 3 to 6mm depth from the top and filling the remaining depth with ready mix matching polymer based cementitious grout of approved shade and as per instruction of Engineer in charge.

The relevant specification of this item shall be followed as per Item No.14.43(B) Page No.99 of General Technical Specification booklet of building works. Except material polished kota stone of size 580 x 760mm in place of kota stone.

Water shall confirm to M.1. Cement shall confirm to M.11 and polished kota stone shall confirm to M.49(C). Size of the polished kota stone up to 60cms long, if necessary. The polished kota stone shall be of export quality and selected & sorted for colour & texture like river finish.

Care shall be taken while filling the grooves so as adjoin stone does not etc spoiled by cement mortar. If spoils then the same shall be neatly cleaned before handling over. Grooves shall be filled and finished when the flooring is laid or otherwise same shall be filled later on with proper cleaning.

The payment shall be made on Square metre basis.

Item No.12

Providing and fixing pre-cast rubber dye / steel dye inter locking concrete block 60mm thick with grade of concrete M.300 pneumatic compressed / vibrated by mechanically and as per approved design confirming to IS 15658 : 2006 including 35mm sand layer for levelling and filling the joint with sand in proper line and level as per guidelines of IRC: SP 63-2018 complete.

MATERIALS:

Water shall conform to M.1. Cement shall conform to M.3. Sand shall conform to M.6.

CASTING OF PAVER BLOCKS:

The casting of the inter locking paver blocks shall be done by using rubber dye to obtain the design surface, finish and texture. Adequate quantity of plasticizers shall be added in the concrete mixes directed by the Engineer in charge.

WORKMANSHIP:

The work shall be carried out as directed. The Rubber Dye Inter Block shall be made from M.300 concrete proportion of (1:1:2). Block shall be factory made. Block shall be of uniform colour, shape, size and design. The site on which the structure is to be built shall be cleared, and all obstructions loose stone, materials and rubbish of all kind bush wood and trees shall be removed as directed. Before the laying of paver block the 35mm thick sand layer is necessary for this item.

LAYING:

The base shall be divided into panels with the help of dividing strips including the strips required for decorative design up to the finished surface level of the floor. Screeds strips shall be used where the dividing strips are used. The base shall be cleaned of all dust, dirt laitance and any loose materials. It shall be then wetted with water. The block shall be laid in proper line and level. The joints shall be filled with cement and sand mixes.

The fixing pre-cast rubber dye inter locking concrete block 60mm thick with grade of concrete M.30 pneumatic compressed / vibrated by mechanically and as per approved design confirming to IS 15658 : 2006 including 35mm sand layer for levelling and filling the joint with sand in proper line and level as per IRC: SP 63-2018 complete.

MODE OF MEASUREMENTS AND PAYMENTS:

The payment shall be made on One Smt. basis.

Item No.13

Providing and fixing pre-cast concrete kerb stone of gray cement based concrete block 30cm length, 30cm height and 15cm thick of M.250 grade concrete as per approved design and including excavation for fixing in proper line and level, filling the joint with C.M. 1:3 (1cement : 3fine sand) etc. complete.

MATERIALS :

Water shall conform to M.1 Page No.9. Cement shall conform to M.3 Page No.9. Sand shall conform to M.6 Page No.9. Stone aggregate 20mm nominal size shall conform to M.12 Page No.11, Cement concrete M.250 shall conform to relevant specification of M.250 of General Technical Specification booklet of building works.

CASTING OF PAVER BLOCKS :

The casting of the inter locking paver block shall be done by using rubber dye to obtain the design surface, finish and texture. Adequate quantity of plasticizers shall be added in the concrete mixes directed by the Engineer in charge. The colour and texture of the kerbing stone blocks shall have to be get approved by the Engineer in charge & Architect.

WORKMANSHIP:

The precast C.C. kerbing blocks shall be laid in proper line & level horizontally as well as vertically as directed by Engineer in charge.

The joints of paver blocks shall be filled with C.M. 1:3 (1cement : 3fine sand)

MODE OF MEASUREMENT AND PAYMENTS :

The length and breadth of C.C. kerbing shall be measured correct to a centimeter.

The rate shall be for a unit of one Running meter.

Item No.14

Providing and fixing C.C. 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size including required plasticizers) pre-cast exposed/ fare finish kerb stones of 300mm x 300mm x 350mm or 300mm x 300mm x 150mm size with homogeneous composition of material using rubber mould of approved design including curing, etc. complete, including the cost of formwork

/ mould cost includes excavation, fixing in proper line and level, filling the joint with C.M. 1:3 (1 cement : 3 fine sand) etc. complete as directed by Engineer in charge.

The C.C. 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size including required plasticizers) pre-cast exposed/ fare finish kerb stones of 300mm x 300mm x 350mm size with homogeneous composition of material using rubber mould of approved design including curing, etc. complete, including the cost of formwork / mould cost includes excavation, fixing in proper line and level, filling the joint with C.M. 1:3 (1 cement : 3 fine sand) etc. complete as directed by Engineer in charge.

The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a unit of one Running meter.

Item No.15

Providing and fixing pre-cast concrete slab for storm water manhole cover of grey cement based concrete block 150cm length, 42cm width and 7.5cm thick of M.250 grade concrete as per approved design and fixing in proper line and level filling the complete.

MATERIALS:

Water shall conform to M.1 Page No.9. Cement shall conform to M.3 Page No.9. Sand shall conform to M.6 Page No.9. Stone aggregate 20mm nominal size shall conform to M.12 Page No.11, Cement concrete M.250 shall conform to relevant specification of M.250 of General Technical Specification booklet of building works.

WORKMANSHIP:

The pre-cast concrete slab for storm water manhole cover of grey cement based concrete block 150cm length, 42cm width and 7.5cm thick of M.250 grade concrete as per approved design and fixing in proper line and level

MODE OF MEASUREMENT AND PAYMENTS :

The length and breadth of C.C. concrete slab shall be measured correct to a centimetre.

The rate shall be for a unit of one Number.

Item No.16

Painting two coats (excluding priming coat) on previously painted steel and other metal surfaces with enamel paint, brushing, interior to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.

The relevant specification of this item shall be followed as per Item No.19.11 Page No.138 of General Technical Specification booklet of building works.

The rate shall be for a unit of one sq. meter.

Item No.17

Refixing of existing Raj green - tumbled (600 x 600 or 600 x 900mm) or any kind of stone avg. 25mm thick in flooring in normal pattern straight or staggered joint with square or rectangular shaped stone. The rate shall include providing 4 to 10mm width joints and filling the same with 1:4 C.M. for two third of the depth avg. 40mm bedding thickness. The rate shall also include providing groove of 3 to 6mm depth from the top and filling the remaining depth with ready mix matching polymer based cementitious grout of BAL or equivalent of approved shade and as per instruction of Engineer in charge.

Refixing of existing Raj green - tumbled (600 x 600 or 600 x 900mm) or any kind of stone avg. 25mm thick in flooring in normal pattern straight or staggered joint with square or rectangular shaped stone. The rate shall include providing 4 to 10mm width joints and filling the same with 1:4 C.M. for two third of the depth avg. 40mm bedding thickness. The rate shall also include providing groove of 3 to 6mm depth from the top and filling the remaining depth with ready mix matching polymer based cementitious grout of BAL or equivalent of approved shade and as per instruction of Engineer in charge.

The rate shall be for a unit of one Square metre basis.

Item No.18

Providing, fabricating and fixing GI Jali including cutting and welding members as per detailed drawing and design as directed by Engineer in charge. The rate shall include 1 coat of rustocap and 2 coats of Hi-gloss metal PU paint of asian paint over all the surfaces or specified by Engineer in charge of approved make over a 2 coats of zinc chromate yellow oxide primer. (50mm x 50mm size of 10 gauge)

The fabricating and fixing GI Jali including cutting and welding members as per detailed drawing and design as directed by Engineer in charge. The rate shall include 1 coat of rustocap and 2 coats of Hi-gloss metal PU paint of asian paint over all the surfaces or specified by Engineer in charge of approved make over a 2 coats of zinc chromate yellow oxide primer. (50mm x 50mm size of 10 gauge). The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a unit of one Square metre basis.

Item No.19

Providing and fixing mild steel sections at a specified size and location including all tools and material as per direction of EIC.

Mild steel section shall be conforming to IS 395:1991. The sections shall be free from the defects, dirt etc and should be checked by EIC before fabrication.

Mode of measurement and payment:

The payment is made on weight basis. Unit of measurement is kg. The rate includes all welding, cutting and fabrication charges including necessary tools and plants.

Item No.20

Finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the

surface to remove all dirt and remains of loose powdered materials etc. complete.

MATERIALS:

The water shall conform to M.1 & White cement shall conform to M.4.

WORKMANSHIP:

The relevant specification of Item No.18.11, 18.29 & 18.30 Page No.125 & 129 of attached book (G.T.S. of B.W.) for preparation of surface priming coat of white cement & scaffolding shall be followed except that the word white wash, colour wash shall be substituted with 100% weather proof acrylic exterior emulsion paint.

CLEANING & FILLING:

Surface to be painted shall be made free from any loose paint, dust or grease, chalk, fungus and algae. This shall be done by wire brushing followed by water jetting. Where there is excessive fungal growth, the surface should be treated with anti-fungal solution. Application of any kind of putty is not recommended for filling of surface imperfections like holes, dents, cracks. But it should be filled by using mixture of white cement and sand (in the ratio of 1:3). Application of 100% weather proof acrylic exterior emulsion paint brush should not be over thinned or over extended. No stainer or colour ants shall be used.

The coats of weather proof acrylic emulsion paint shall be applied. Second coat shall be applied after the interval of 4 to 6 hrs. (Recoating period) It shall be applied by thinning with 40% by volume of clean water. It can be applied by brush/roller.

To maintain the uniform mixture and to prevent segregation the paint shall be stirred frequently before use. Tinted paint need through shaking immediately after addition as well as before use.

SEALED OF TIN OF WEATHER:

Weather Proof acrylic exteriors emulsion paint shall be opened in the presence of Engineer in charge.

The Apex paint shall be used of ASIAN/ BERGER & NEROLAC brand and directed by Engineer-in-charge.

MODE OF MEASUREMENT AND PAYMENT:

1. The relevant specification of Item No.18.11 Page No.125 shall be followed.
2. The rate shall be for a unit of one Smt.

Item No.21

Refixing pre-cast concrete kerb stone of gray cement based concrete block of any size and grade concrete including removal of existing, excavation (whenever required), refixing in proper line and level, filling the joints with C.M. 1:3 (1cement: 3fine sand) etc. complete as directed by Engineer in charge.

Existing precast kerb stone shall be removed and same shall be reused with C.M. 1:3.

1.0 MATERIALS:

Water shall conform to M.1. Cement to M.3. Sand to M.6. Grit to M.8. Graded stone aggregate 20mm. Nominal size to M.12.

2.0 GENERAL:

2.1 Contractor shall have to manufacture the blocks as per the dimensions given in the drawing. (30 x 15 x 37.5cm)

2.2 Specific machineries shall be used to manufacture the precast block. These machineries should be compatible to produce blocks of required strength and dimensions. The machine shall contain Hydraulic Press or advanced equipment to generate required compaction & Grade in addition to the table vibrator. Moulds/Steel Plates/Dies of the machine shall be dimensionally checked & to be got approved before commencing the production.

2.3 Contractor shall prepare proper Drying Yard for keeping the blocks before curing. The drying yard shall be leveled and covered so that no shrinkage cracks are formed.

2.4 Contractor shall prepare adequate size curing pond to cure the blocks for not less than 21 Days. No other means of curing shall be allowed.

The technical specification of concrete shall confirm to IS 456-1978.

2.6 The concrete mix is not required to be designed by preliminary tests and only nominal mix as per IS: 456 1978 shall be followed. The proportion of the concrete mix shall be 1:1:2 (1cement: 1coarse sand: 2graded stone aggregate 20mm nominal size) by volume. Concrete work shall have exposed concrete surface or as specified in the Item.

- 2.7 The designation ordinary M-10, M-15, M-20, M-25 specified as per I.S. corresponds approximately to 1:3:6, 1:2:4, 1:1.5:3 and 1:1:2 nominal mix or ordinary concrete, by volume respectively.
- 2.8 The ingredients required for ordinary concrete containing one bag of cement of 50 Kg. by weight (0.0342 m³.) for different proportions of mix shall be as per IS 456:1978. The proportion of the aggregate for the kerb stone shall be modified as per the approval of the Engineer in charge.
- The ingredients required for ordinary concrete containing one bag of cement of 50 Kg. by weight (0.0342 m³.) for different proportions of mix shall be as per IS 456:1978. The proportion of the aggregate for the kerb stone shall be modified as per the approval of the Engineer in charge.
- 2.9 The water cement ratios shall not be more than those specified as per IS. The cement of the mix shall be increased, if the quantity of water in a mix has to be increased to overcome the difficulties of placement and compaction so that the water cement ratio specified in the table is not exceeded.
- 2.10 The maximum size of coarse aggregate shall be as large as possible within the limits specified but in no case greater than 1/4th of the minimum thickness of the member, provided that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and to fill the corners of the form.
- 2.11 For reinforced concrete work, coarse aggregates having a nominal size of 20mm. are generally considered satisfactory.
- 2.12 Admixture shall be used in concrete only with approval of the Architect and Engineer in Charge based up on the evidence that with the passage of time, neither the compressive strength of concrete is reduced nor are other requisite qualities of concrete impaired by the use of such admixtures.
- 3.0 **WORKMANSHIP:**
Existing Kerb Blocks shall be removed and new precast kerb blocks shall be fixed as per instruction of Engineer in charge.
- 3.1 **Proportioning:**
Proportioning shall be done by volume, except cement, which shall be measured in terms of bags of 50 Kg. weight. The volume of one such bag being taken as 0.0342 m³. Boxes of suitable sizes shall be

used for measuring sand and aggregate. The size of the boxes (Internal) shall be 35cm x 25cm and 40cm. deep. While measuring the aggregate and sand, the box shall be filled without shaking ramming or hammering. The proportioning of sand shall be on the basis of its dry volume and in case of damp sand, allowances for bulkage shall be made. Site shall be cleared after completion of work including removing of debris.

3.2 Mixing:

3.2.1 For all work, concrete shall be mixed in a mechanical mixer which along with other accessories shall be kept in first class working condition and maintained throughout the construction. Measured quantity of aggregate, sand and cement required for each batch shall be poured into the drum of the mechanical mixer while it is continuously running. After about half a minute of dry-mixing, measured quantity of water required for each batch of concrete mix shall be added gradually and mixing continued for another one and a half minute. Mixing shall be continued till materials are uniformly distributed and uniform colour of the entire mass is obtained and each individual particle of the coarse aggregate shows complete coating of mortar containing its proportionate amount of cement. In no case shall the mixing be done for less than 2 Minutes after all ingredients have been put in to the mixer.

3.2.3	Mixers, which have been out of use for more than 30 minutes, shall be thoroughly cleaned before putting in a new batch. Unless otherwise agreed to by the Architect and Engineer in Charge, the first batch of concrete from the mixture shall contain only 2/3rds of normal quantity of coarse aggregate. Mixing plant shall be thoroughly cleaned before changing from one type of cement to another.
3.3	Consistency: The degree of consistency which shall depend upon the nature of the work and methods of vibration of concrete, shall be determined by regular slump tests in accordance with IS: 1199-1959. The slump of 10mm to 25mm shall be adopted when vibrators are used.
3.4	Inspection
3.4.3	All Moulds shall be cleaned and made free from standing water, dust, snow or ice immediately before placing of concrete.
3.4.4	Form work / Metal mould for exposed concrete surface (If indicated):

3.4.4.1	All the moulds shall be checked for exact dimensions of the Precast blocks. All the edges of the Precast blocks shall confirm the profile of the final drawing & edges/ curvatures of the moulds shall be checked accordingly. Moulds shall be regularly checked for correctness of dimensions of Blocks, twists, bends due to handling, etc. before starting every days work.
3.4.4.2	Care shall be taken to set all form work / Mould in perfect line, level (Or in required camber or slope as specified) and plumb. Form work / Mould propping shall be strong, rig rigid and sturdy. The formwork/Mould shall be done accurately and precisely so as to achieve neat, clean and smooth concrete surface, in line, level and plumb. Clinks, twists, offsets, warps, riveting etc. in plates or forms shall not be allowed. Before placing concrete, forms shall be thoroughly cleaned off of all rust, dust and loose materials. Colorless oil or grease of approved quality shall be applied before placing steel. Also the form work material will be of wood/Plywood/steel or any sort of such material, as approved by the Architect, so that all exposed concrete surfaces have uniform colour.
3.4.4.3	For all kind of exposed concrete work only one brand (to be approved by the Architect or Engineer in charge) of cement shall be used.
3.5	Removal of Moulds:
3.5.1	Specific time shall be identified for removal of moulds, such that the concrete of the Precast Blocks shall gain strength to withstand the stresses generated due to and begins to cream up to form an even surface. Compaction shall be completed before the initial setting starts i.e. within 30 minutes of addition of water to dry mixture.
3.11	Curing: Only pond curing shall be adopted and curing shall be done for min. 14 days.
3.12	Sampling and testing of concrete:
3.12.1	Samples from fresh concrete shall be taken as per IS: 1199 1959 and cubes shall be made, cured and tested at 7 days or 28 days as per requirements in accordance with IS: 5161959. A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested i.e. the sampling should be spread over the entire period of concreting and cover all mixing units. NOTE: At least 1 sample shall be taken from each shift. Ten test specimens shall be made from each sample 5 for testing at 7 days and the remaining 5 at 28 days. The samples of concrete shall be taken on

	each day of the concreting as per above frequency. The number of specimens may be suitably increased as deemed necessary by the Architect and Engineer in Charge when procedure of tests given above reveals a poor quality of concrete and in other special cases.
3.12.2	The average strength of the group of cubes cast for each day shall not be less than the specified cube strength of 250kg/Cm ² at 28 days. 20% of the cubes cast for each day may have value less than the specified strength provided the lowest value is not less than 85% of the specified strength. If the concrete made in accordance with the proportions given for a particular grade, does not yield the specified strength, such concrete shall be classified as belonging to the appropriate lower grade. Concrete made in accordance with the proportions given for a particular grade shall not, however, be placed in a higher grade on the ground that the test strength are higher than the minimum specified.
3.12.3	If rock pockets/Honeycombs in the opinion of Architect and Engineer in Charge are of such an extent or character so as to effect the strength of the structure, materially or to endanger the life of the steel reinforcement, he may declare the concrete defective and require the removal and replacement of the portion of the structure affected.
1.1	Precast Kerb Stones: The relevant specifications of concreting as per Item above shall be followed except that work shall be carried out for precast concrete kerb stones as specified in the Item.
1.2	All Precast members shall be cast at workshop. Sufficient curing shall be done before placement of the same
1.3	The method of transporting and placing the precast members shall be as approved by the Architect and Engineer in Charge. Members shall be so transported that no breakage or undue stresses are induced in them.
1.4	It required, all members shall have a key provided on both the faces i.e. top and bottom surfaces, of adequate size so as to fill the same with concrete while laying. The function of thick key is to avoid the leakage through the joint between the precast member and the member on which it is laid.
1.5	Oil painting to kerb stone shall be done as per Bldg. specification book Item No.18.57 Page No.120.
4.0	MODE OF MEASUREMENT AND PAYMENT:

4.1	The rate shall include cost of form work but exclude the cost of reinforcement & including oil painting 3 coats with priming coat.
4.2	The volume occupied by reinforcement shall not be deducted from R.C.C. work.
4.3	The rate shall be for an unit as specified in BOQ. The rate shall be per Rmt basis.

Item No.22

Changing 5mm thick bronze tinted float glass / bajri glass in existing alluminium window / ventilation including all tools and equipments required as per direction of Engineer in charge.

The fixing 5mm thick bronze tinted float glass in existing alluminium window including all tools and equipments required as per direction of Engineer in charge.

The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for of one sq. meter.

Item No.23

Providing and laying granite slab (16-18mm thick) one side polished flooring over 20mm (average) base of cement mortar 1:6 (1cement: 6coarse sand) or L.M. 1:1.5 laid and jointed with grey cement slurry including rubbing and polishing, moulding one or both edges complete as directed by Engineer in charge.

The relevant specification of this item shall be followed as per Item No.14.36(A) Page No.97 of General Technical Specification booklet of building works. Except that the 16-18mm thick black granite stone conforming to M.54 Page No.24 with moulding & piping the edges & three lines gishi shall be used instead of marble stone.

The rate shall be for a unit of one square meter.

Item No.24

Providing and laying polished kota stone slab flooring over 20mm (average) thick base of cement mortar 1:6 (1cement: 6coarse sand) or L.M. 1:1.5 (1lime putty: 1.5coarse sand) laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing etc. complete.

[A] 25mm thick

The relevant specification of this item shall be followed as per Item No.14.43(A) Page No.98 of General Technical Specification booklet of building works.

The rate shall be for a unit of one sq. meter.

Item No.25

Providing and fixing Urinal or approved quality including connecting the Urinal with waste pipe etc. complete. (A) White earthenware flat back or corner type size 430mm x 260mm x 350mm.

The relevant specification of this item shall be followed as per Item No.23.122(A) Page No.172 of General Technical Specification booklet of building works. The fixing flat back small Urinal size 430mm x 260mm x 350mm.including cutting holes and making good the same including fixing C.P. brass extension nipple 62mm long, S.S. flange water super connection pipe 60cm long and full thread waste coupling etc. complete for all floor.

The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a unit of one Number.

Item No.26

Constructing manhole with RCC top slab in 1:2:4 mix (1cement: 2coarse sand 4graded stone aggregate 20mm nominal size) foundation concrete 1:3:6 mix (1cement: 3coarse sand: 6brick bat 40+ 50mm size) inside plastering 15mm thick with cement mortar 1:5 (1cement: 5coarse sand) finished with a floating coat of neat cement and making channels in cement concrete 1:2:4 mix (1cement: 2coarse sand: 4stone aggregate 20mm nominal size) finished smooth complete including curing and fastening. [I] Inside size 900mm x 1200mm and 1.5M deep including C.I. cover with frame size 560mm diameter total weight of cover and frame to be not less than 128kgs (wt. of cover 64kg. and wt. of frame 64kg.) [A] With 230mm thick walls of brick masonry using brick having crushing strength not less than 35kg./sqcm in cement mortar 1:5 (1cement: 5coarse sand) [2] B type depth 1.50mt for 150mm diameter sewer.

The relevant specification of this item shall be followed as per Item No.24.27 Page No.178 of General Technical Specification booklet of building works.

The rate shall be for of one Number.

Item No.27

Providing and fixing Urinal or approved quality including connecting the Urinal with waste pipe etc. complete.(A) White earthenware flat back or corner type size 430mm x 260mm x 350mm.

The relevant specification of this item shall be followed as per Item No.23.122(A) Page No.172 of General Technical Specification booklet of building works. The fixing flat back small Urinal size 430mm x 260mm x 350mm.including cutting holes and making good the same including fixing C.P. brass extension nipple 62mm long, S.S. flange water super connection pipe 60cm long and full thread waste coupling etc. complete for all floor.

The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a unit of one Number.

Item No.28

Providing and fixing water closet squatting pan (European type W.C. pan) simpolo nettuno size 645 x 360 x 730mm (Cat. No.30006) with Cistern Enigma (Cat. No.31006) & Health faucet ABS with rubbit ceaning system, 1.25m long PVC Flexible tube & ABS wall hood with integral 'P' or 'S' trap including jointing the trap with C.I. soil pipe in C.M. 1:1 including seat cover etc. complete. For all floor.

The relevant specification of this item shall be followed as per Item No.23.112(A)(I) Page No.165 of General Technical Specification booklet of building works. The fixing water closet squatting pan (European type W.C. pan) simpolo nettuno size 645 x 360 x 730mm (Cat. No.30006) with Cistern Enigma (Cat. No.31006) & Health faucet ABS with rubbit ceaning system, 1.25m long PVC Flexible tube & ABS wall hood with integral 'P' or 'S' trap including jointing the trap with C.I. soil pipe in C.M. 1:1 including seat cover etc. complete.

The rate shall be for of one Number.

Item No.29

Providing and fixing 12.5 litres low level flushing cistern with a pair of C.I. or mild steel brackets complete with fittings such as lead valve less syphon, 15mm

nominal size brass ball valve with polythene float, C.P. brass ball handle, unions and couplings for connections with inlet, outlet and overflow pipes, 40mm dia porcelain enamelled flush bend including cutting holes in walls and making good the same and connecting the flush bend with cistern and closet. (Overflow pipe to be measured and paid for separately)

[A] Vitreous china

[I] In white colour

The relevant specification of this item shall be followed as per Item No.23.115(A)(I) Page No.165 of General Technical Specification booklet of building works.

The rate shall be for of one Number.

Item No.30

Providing and fixing C.P. angle stop cock 15mm heavy duty with cap including all necessary tools and fasteners etc. as directed by Engineer in charge.

The relevant specification of this item shall be followed as per M.57 Page No.25 of General Technical Specification booklet of building works. The fixing C.P. angle stop cock 15mm heavy duty with cap including all necessary tools and fasteners etc.as directed by Engineer in charge.

The rate shall be for a unit of one Number.

Item No.31

Providing and fixing water closet squatting pan (Orrisa type W.C. pan) simpolo size 580mm x 400mm (Cat. No.70002BR) with integral 'P' or 'S' trap including jointing the trap with C.I. soil pipe in C.M. 1:1 including seat cover etc. complete for all floor.

The relevant specification of this item shall be followed as per Item No.23.111(A)(I) Page No.163 & Item No.23.113(A) Page No.165 of General Technical Specification booklet of building works. The fixing water closet squatting pan (Orrisa type W.C. pan) simpolo size 580mm x 400mm (Cat. No.70002BR) with integral 'P' or 'S' trap including jointing the trap with C.I. soil pipe in C.M. 1:1 including seat cover etc. complete.

The rate shall be for of one Number.

Item No.32

Providing and fixing water closet squatting pan (European type W.C. pan) simpolo nettuno size 645 x 360 x 730mm (Cat. No.30006) with Cistern Enigma

(Cat. No.31006) & Health faucet ABS with rabbit ceaning system, 1.25m long PVC Flexible tube & ABS wall hood with integral 'P' or 'S' trap including jointing the trap with C.I. soil pipe in C.M. 1:1 including seat cover etc. complete. For all floor.

The relevant specification of this item shall be followed as per Item No.23.112(A)(I) Page No.165 of General Technical Specification booklet of building works. The fixing water closet squatting pan (European type W.C. pan) simpolo nettuno size 645 x 360 x 730mm (Cat. No.30006) with Cistern Enigma (Cat. No.31006) & Health faucet ABS with rabbit ceaning system, 1.25m long PVC Flexible tube & ABS wall hood with integral 'P' or 'S' trap including jointing the trap with C.I. soil pipe in C.M. 1:1 including seat cover etc. complete.

The rate shall be for of one Number.

Item No.33

Providing and fixing screw down bib taps of following size.

[B] Brass chromium plated screw down bib tap

[I] 15mm diameter

The relevant specification of this item shall be followed as per Item No.23.92(B) (I) Page No.170 of General Technical Specification booklet of building works.

The rate shall be for of one Number.

Item No.34

Providing and fixing mirror of size 600 x 450 mm with bevelled edge of superior glass mounted on 6 mm thick A.C. sheet and fixing to wooden plug with C. P. brass screws and washers etc. complete for all floor.

The rate shall be for of one Number.

Item No.35

Providing, laying and jointing in true line and level 15mm dia UPVC pipe (SCH.40) for cold water including fittings make Prince/ Supreme/ Astral/ Finolex or equivalent as approved by Engineer in charge. Pipe shall be fixed on the wall with the help of clamp at every two meter c/c or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

MATERIALS:

The U.P.V.C. shall not be attached by various chemicals. It shall be rust proof and does not support combustion. The pipe shall have a minimum thickness of 3.2mm. The inner surface shall be smooth and restriction free. The U.V. stabilized UPVC SWR pipes of 15mm diameter with working pressure of 6 Kg. per Sq Cm. shall be used to conform to IS-13592:92- CM/L-7361673, rubber ring shall conform to IS 5382 to the pipes shall be of best quality and make as approved by the Engineer in charge.

WORKMANSHIP:

The pipes shall be fixed securely to the wall with clips as directed. Jointing of pipes shall be done with special quality and rubber ring. All pipes shall be fixed truly vertical and horizontal unless unavoidable. The guide line indicated by the manufacturer regarding handling, transportation, storing, laying and jointing of pipes shall be best in view during execution and as per directed by Engineer in charge.

All soil pipes shall be carried up above the roof and shall have a wire balloon guard or a cowl. The ventilating pipe or shaft shall be carried out to a height of at least one meter above the outer covering of the roof of the building or in the case of windows in a gable wall or a dormer windows, it shall be carried up to the ridge of the roof or at least two meters above the top of the windows.

In case of flat roof to which access for use is provided, it shall be carried out up to a height of at least one meter above the parapet or two meters measured vertically from the top of any windows in opening which may exist up to a horizontal distance of five meters from the vent pipe into such building and in no case shall be carried out to a height less than three meters.

Where ventilating pipes are carried in pipe shafts, the shafts shall be of a minimum size of one meter. If the shafts roof also used to give light and air to rooms, the ventilating pipes must be carried out to a horizontal distance at roof level not less than five meter from the site of the shaft.

The connection between the main pipe and branch pipes shall be made by using branches and bends with access doors for cleaning. The waste from lavatories, kitchens basins, sinks, baths and other floor traps shall be separately connected to respective stacks of upper floors.

The waste stack of lavatories shall be connected directly to main hole while the waste slack of other shall be separately discharged over gully trap.

MODE OF MEASUREMENT & PAYMENT:

The description shall unless otherwise stated be held to include where Necessary conveyance and delivery conveyance and delivery handling, unloading, storing, hoisting, all labour for finishing to required shape and size, testing, fitting in position straight cutting and water return of packing etc.

The length shall be measured in running meter basis of finished work. The length shall be taken along the centerline of the pipe and fittings. The pipes fixed to walls ceiling floors etc. shall be measured and paid under this item.

All the work shall be measured in decimal systems as fixed in its places. Dimensions shall be measured to the nearest 0.01-meter. All measurements of cutting shall unless otherwise stated be held to include the consequent wastage. In case of fitting of unequal bore the largest bore shall be measured for the test.

Testing of pipe lines fittings and joints include for providing all plant and appliances necessary for obtaining necessary access to the work to be tested and carrying out the test.

The rate include P.V.C. pipe, solution, labours for fixing complete and cutting also wastage.

Rate shall be for a unit of one Running Meter.

Item No.36

Providing, laying and jointing in true line and level 25mm dia UPVC pipe (SCH.40) for cold water including fittings make Prince/ Supreme/ Astral/ Finolex or equivalent as approved by Engineer in charge. Pipe shall be fixed on the wall with the help of clamp at every two meter c/c or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

MATERIALS:

The U.P.V.C. shall not attached by various chemicals. It shall be rust proof and does not support combustion. The pipe shall have a minimum thickness of 3.2mm. The inner surface shall be smooth and restriction free. The U.V. stabilized UPVC SWR pipes of 25mm diameter with working pressure of 6 Kg. per Sq Cm. shall be used to conform to IS-13592:92- CM/L-7361673, rubber ring shall conform to IS 5382 to the pipes shall be of best quality and make as approved by the Engineer in charge.

WORKMANSHIP:

The pipes shall be fixed securely to the wall with clips as directed. Jointing of pipes shall be done with special quality and rubber ring. All pipes shall be fixed truly vertical and horizontal unless unavoidable. The guide line indicated by the manufacturer regarding handling, transportation, storing, laying and jointing of pipes shall be best in view during execution and as per directed by Engineer in charge.

All soil pipes shall be carried up above the roof and shall have a wire balloon guard or a cowl. The ventilating pipe or shaft shall be carried out to a height of at least one meter above the outer covering of the roof of the building or in the case of windows in a gable wall or a dormer windows, it shall be carried up to the ridge of the roof or at least two meters above the top of the windows.

In case of flat roof to which access for use is provided, it shall be carried out up to a height of at least one meter above the parapet or two meters measured vertically from the top of any windows in opening which may exist up to a horizontal distance of five meters from the vent pipe into such building and in no case shall be carried out to a height less than three meters.

Where ventilating pipes are carried in pipe shafts, the shafts shall be of a minimum size of one meter. If the shafts roof also used to give light and air to rooms, the ventilating pipes must be carried out to a horizontal distance at roof level not less than five meter from the site of the shaft.

The connection between the main pipe and branch pipes shall be made by using branches and bends with access doors for cleaning. The waste from lavatories, kitchens basins, sinks, baths and other floor traps shall be separately connected to respective stacks of upper floors.

The waste stack of lavatories shall be connected directly to main hole while the waste slack of other shall be separately discharged over gully trap.

MODE OF MEASUREMENT & PAYMENT:

The description shall unless otherwise stated be held to include where Necessary conveyance and delivery conveyance and delivery handling, unloading, storing, hoisting, all labour for finishing to required shape and size, testing, fitting in position straight cutting and water return of packing etc. The length shall be measured in running meter basis of finished work. The length shall be taken along the centerline of the pipe and fittings. The pipes fixed to walls ceiling floors etc. shall be measured and paid under this item.

All the work shall be measured in decimal systems as fixed in its places. Dimensions shall be measured to the nearest 0.01-meter. All

measurements of cutting shall unless otherwise stated be held to include the consequent wastage. In case of fitting of unequal bore the largest bore shall be measured for the test.

Testing of pipe lines fittings and joints include for providing all plant and appliances necessary for obtaining necessary access to the work to be tested and carrying out the test.

The rate include P.V.C. pipe, solution, labours for fixing complete and cutting also wastage.

Rate shall be for a unit of one Running Meter.

Item No.37

Providing and fixing gun metal check or non return full way wheel valve. (A) 25 mm dia.

The rate shall be for of one Number.

Item No.38

Providing and fixing gun metal check or non return full way wheel valve. (E) 40 mm dia.

The rate shall be for of one Number.

Item No.39

Providing and fixing S.W. gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300mm x 300mm size (Inside) with standard weight.

[1] Square mouth traps [B] 150 x 100mm size P or R type

The relevant specification of this item shall be followed as per Item No.24.19(I) Page No.176 of General Technical Specification booklet of building works. Work shall be carried out for 150 x 100mm size P or R type instead of 100 x 100mm size P or S type.

The rate shall be for of one Number.

Item No.40

Providing and fixing PVC SWR nahni trap IS 14735 for drain 100mm diameter with jali of the following nominal diameter of self cleaning design with C.I. screwed down or hinged grating including the cost of cutting and making good the wall. The relevant specification of this item shall be followed as per Item No.23.87 Page No.164 of General Technical

Specification booklet of building works. Excepted PVC SWR nahni trap instead of cast iron nahni trap.

The rate shall be for of one Number.

Item No.41

Providing and fixing pillar tap, capstan head, screw down high pressure with screws, shanks and back nuts.

[A] 15mm diameter

The relevant specification of this item shall be followed as per Item No.23.95(A) Page No.171 of General Technical Specification booklet of building works.

The rate shall be for a Unit of One Number.

Item No.42

Providing and fixing to wall ceiling and floor 10.0kgf/cm² working pressure polyethylene pipes of the following outside diameter, low density, complete with special flange compression type fittings, wall clips etc. including making good the wall ceiling and floor. [G] 110mm diameter

The relevant specification of this item shall be followed as per Item No.23.8 Page No.162 of General Technical Specification booklet of building works. Except dia of pipe shall be 110mm.

The rate shall be for of one Running Meter.

Item No.43

Providing and fixing to wall ceiling and floor 10.0kgF/cm² working pressure polyethylene pipes of the following outside diameter, low density, complete with special flange compression type fittings, wall clips etc. including making good the wall ceiling and floor. [F] 75mm diameter

The relevant specification of this item shall be followed as per Item No.23.8 Page No.162 of General Technical Specification booklet of building works. Except dia of pipe shall be 75mm.

The rate shall be for of one Running Meter.

Item No.44

Providing and laying 24" x 24" vitrified 8mm thick tiles flooring over 20mm (average) base of cement mortar 1:6 (1cement: 6coarse sand) on new surface or fixing on existing flooring by adhesive material including dismantling of existing flooring and jointed with colour cement slurry including finished with flush pointing & cleaning the surface etc. complete. For Antiskid.

The relevant specification of this item shall be followed as per Item No.14.29 Page No.96 of General Technical Specification booklet of

building works. And vitrified tiles 8 thick as Asian/ Somani or equivalent brand the work shall be carried out as per instruction Engineer in charge.

The rate shall be for a unit of one sq. meter

Item No.45

Providing and laying vitrified tiles 8mm to 10mm thick, 24" x 24" in skirting, risers of steps and dedo on 10mm thick cement plaster 1:3 (1cement: 3coarse sand) & jointed with white cement slurry.

The relevant specification of this item shall be followed as per Item No.14.32 Page No.97 of General Technical Specification booklet of building works. And light shade vitrified tiles 8mm to 10mm thick as Asian/ Somani or equivalent brand only the work shall be carried out as per instruction Engineer in charge for necessary design, patta etc. complete.

The rate shall be for a unit of one sq. meter.

Item No.46

Providing and laying white glazed tiles 6mm thick in skirting risers of steps and dedo on 10mm thick cement plaster 1:3 (1-cement : 3- coarse sand) and jointed with white cement slurry

The relevant specification of this item shall be followed as per Item No.14.32 Page No.97 of General Technical Specification booklet of building works. And light shade glazed tiles 6mm thick as Asian/ Somani or equivalent brand only the work shall be carried out as per instruction Engineer in charge for necessary design, patta etc. complete.

The rate shall be for a unit of one sq. meter.

Item No.47

Parking Sign :-Providing and fixing sign boards made out of * 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size size 60 x 60cms. square plus 60 x 20cms rectangular additional plate as as per the design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 3.6mtr long stand post of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in

charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting.

The rate shall be for a unit of one Number.

Item No.48

Providing and fixing dead lock with 60/55 mm Europrofile pin cylinder of kitchor equivalent with both side key/ one side key-one side knob with one pair of rose for alluminium door with necessary ss phillips head screw etc complete as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places.

The fixing dead lock with 60/55 mm Europrofile pin cylinder of kitchor equivalent with both side key/ one side key-one side knob with one pair of rose for alluminium door with necessary ss phillips head screw etc complete as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places.

The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a unit of one Number.

Item No.49

Providing and fixing 19 mm diameter SS 316 satin (brush) finish push-pull handles square/rectangle shape in pair of Dorma or equivalent with necessary screws etc. comelete,as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places. (a) 200 mm long

1. Material

Stainless Steel Grade: SS 316 (corrosion-resistant, suitable for exterior & humid conditions)

Rod Diameter: 19 mm

Type: Solid / heavy-duty section

2. Finish

Surface Finish: Satin / Brushed finish

Smooth, anti-fingerprint, corrosion-resistant surface

3. Size

Handle Length: 200 mm

Projection (from door surface): Typically 50–75 mm (as per approved design)

Shape: Square / Rectangular type design

4. Make / Brand

Dorma or equivalent approved brand
(e.g., Godrej, Ozone, Hafele – subject to approval)

5. Installation

Fixed in pair (back-to-back) on door shutter

Suitable for:

Glass doors / Wooden doors / Metal doors

Fixing with:

SS screws / bolts

Necessary washers, sleeves, and fittings

Proper alignment, firm grip, and no wobbling after installation

6. Workmanship

Installation as per:

Approved drawing

Architect's sample

Engineer-in-Charge (EIC) instructions

Neat finishing with no scratches or dents

7. Scope of Work

Supply of handle

Fixing in position

All accessories included (screws, fasteners, etc.)

Complete installation at all heights, all floors, and all locations

8. Measurement & Rate

Unit: Per pair

Rate includes:

Material

Labour

Transportation

Installation

All incidental charges

9. Quality Requirements

Rust-proof and weather-resistant

Uniform finish without discoloration

Strong and durable for frequent use

The rate shall be for a unit of one Pair.

Item No.50

Providing and fixing of specified height (minimum rod size shall be 10 mm) satin nickel finish brass or SS 304 brush finish tower bolt of EPPW or equivalent with necessary screws etc. complete, as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places. (a) 300 mm long

1. Material

Option 1: Brass (high-quality, durable)

Option 2: Stainless Steel Grade 304 (SS 304)

Minimum Rod Diameter: 10 mm (solid rod for strength and durability)

2. Finish

Brass: Satin Nickel Finish (smooth, corrosion-resistant, aesthetic)

SS 304: Brushed / Satin Finish

3. Size

Length: 300 mm

Rod Thickness: Minimum 10 mm

Shape: Standard tower bolt (sliding type)

4. Make / Brand

EPPW or equivalent approved brand
(e.g., Godrej, Ozone, Hafele – subject to approval)

5. Components

Sliding bolt rod

Base plates / brackets

Receiver / socket (floor or frame fixing)

Guide brackets

Necessary SS screws, fasteners, and fittings

6. Installation

Fixed on door shutter (wooden/metal/other approved surface)

Smooth sliding operation without jamming

Proper alignment with receiver socket

Firmly anchored using appropriate screws

7. Workmanship

Installation as per:

Approved drawing

Architect's sample

Engineer-in-Charge (EIC) instructions

Neat, level, and properly aligned fixing
No looseness, misalignment, or surface damage

8. Scope of Work

Supply of tower bolt

Complete fixing with accessories

Includes all tools, labour, and incidental materials

Applicable for all heights, all floors, and all locations

9. Measurement & Rate

Unit: Each

Rate includes:

Material

Labour

Transportation

Installation

All necessary hardware and accessories

10. Quality Requirements

Corrosion-resistant and long-lasting

Smooth and noiseless operation

Uniform finish without scratches or defects

Strong locking action for secure closure

The rate shall be for a unit of one Number.

Item No.51

Providing and fixing of 22 mm diameter SS 304 satin (brush) finish Mortise handle in pair of KICH or equivalent with necessary SS phillips headscrews etc. complete, as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places. (a) 300 mm long

1. Material

Stainless Steel Grade: SS 304

Handle Diameter: 22 mm

Type: Solid / heavy-duty construction suitable for frequent use

2. Finish

Surface Finish: Satin / Brushed finish

Smooth, corrosion-resistant, and anti-fingerprint appearance

3. Size

Handle Length: 300 mm

Diameter: 22 mm

Type: Mortise handle (plate-mounted / lock-compatible)

4. Make / Brand

KICH or equivalent approved brand
(e.g., Godrej, Ozone, Hafele – subject to approval)

5. Components

Pair of mortise handles (both sides of door)

Compatible with mortise lock body

Base plates / fixing plates (if applicable)

SS Phillips head screws

Necessary fittings and accessories

6. Installation

Fixed on door shutter (wooden / metal / flush door)

Suitable for use with mortise lock system

Proper alignment with lock spindle

Firm fixing with SS screws ensuring no looseness

7. Workmanship

Installation as per:

Approved drawings

Architect's sample

Engineer-in-Charge (EIC) instructions

Clean and scratch-free installation

Proper alignment and smooth operation

8. Scope of Work

Supply of mortise handle set

Fixing in position with all accessories

Includes labour, tools, and incidental materials

Applicable for all heights, all floors, and all locations

9. Measurement & Rate

Unit: Per pair

Rate includes:

Material

Labour

Transportation

Installation

All accessories and fittings

10. Quality Requirements

Rust-resistant and durable

Smooth finish without dents or defects

Strong grip and long service life

Compatible with standard mortise lock systems

The rate shall be for a unit of one Pair.

Item No.52

Providing and fixing butt hinge of specified of specific size of specified SS grade brush finish with necessary etc. complete, as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places. (a) 300 mm long

1. Material

Stainless Steel Grade: SS 304 / SS 316 (as specified in BOQ)

Type: Heavy-duty butt hinge

Thickness: Suitable for door weight (generally 3–4 mm leaf thickness for heavy-duty use)

2. Finish

Surface Finish: Brush / Satin finish

Smooth, corrosion-resistant and uniform appearance

3. Size

Hinge Length: 300 mm

Width (open): As per manufacturer standard (typically 75–100 mm)

Type: Butt hinge (double leaf hinge with pin)

4. Make / Brand

Approved make such as Hafele, Godrej, Ozone or equivalent

5. Components

Two hinge leaves (male & female)

Central pin (fixed / removable as per design)

Knuckle joints for smooth movement

SS screws (Phillips head) for fixing

Necessary washers / fittings

6. Installation

Fixed on door shutter and frame

Suitable for:

Wooden doors

Metal doors

Proper alignment to ensure:

Smooth opening/closing
No noise or binding
Fixed with appropriate size SS screws

7. Workmanship

Installation as per:
Approved drawings
Architect's sample
Engineer-in-Charge (EIC) instructions
Hinges to be installed in line and level
Neat finishing without surface damage

8. Scope of Work

Supply of butt hinge
Fixing in position
Includes all screws, fittings, and accessories
Applicable for all heights, all floors, and all locations

9. Measurement & Rate

Unit: Each
Rate includes:
Material
Labour
Transportation
Installation
All incidental charges

10. Quality Requirements

Corrosion-resistant and long-lasting
Smooth and noiseless operation
Strong load-bearing capacity
Uniform finish without defects
The rate shall be for a unit of one Number.

Item No.53

Providing and fixing Floor mounted door stop (flat or half moon) or door stopper of kich or equivalent with necessary etc. complete, as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places. (a) 300 mm long

1. Material

Base Material:

Stainless Steel (SS 304) / Zinc alloy / Brass (as per approved make)
Rubber Buffer:
High-quality EPDM / PVC rubber to absorb impact and prevent damage

2. Finish

Surface Finish:

Satin / Brushed finish (for SS)

Or chrome / nickel finish (for brass/zinc, if applicable)

Corrosion-resistant and durable finish

3. Size

Length / Projection: 300 mm

Type:

Flat type or

Half-moon type (semi-circular)

4. Make / Brand

KICH or equivalent approved brand
(e.g., Godrej, Ozone, Hafele – subject to approval)

5. Components

Door stopper body

Rubber buffer / stopper head

Base plate

SS screws and fasteners

Rawl plugs (for floor fixing)

6. Installation

Fixed on finished floor surface (tile/stone/concrete)

Positioned to prevent door from hitting wall or fixtures

Proper anchoring with screws and rawl plugs

Firm fixing with no movement or looseness

7. Workmanship

Installation as per:

Approved drawings

Architect's sample

Engineer-in-Charge (EIC) instructions

Proper alignment and neat finishing

No damage to floor finish during installation

8. Scope of Work

Supply of door stopper

Complete fixing with all accessories
Includes labour, tools, and incidental materials
Applicable for all heights, all floors, and all locations

9. Measurement & Rate

Unit: Each

Rate includes:

Material

Labour

Transportation

Installation

All fittings and accessories

10. Quality Requirements

Strong and durable construction

Effective shock absorption

Corrosion-resistant

Smooth finish without scratches or defects

The rate shall be for a unit of one Number.

Item No.54

Providing and fixing 10" long (minimum rod size shall be 15 mm)" j" type satin nickel finish brass or SS 304 brush finish Aldrop of EPPW or equivalent a with necessary etc. complete, as per drawing and sample approved by architect/ EIC. Rate shall be for all height, all floor and all places. (a) 300 mm long

1. Material

Option 1: Brass (heavy-duty, durable)

Option 2: Stainless Steel Grade 304 (SS 304)

Rod Diameter: Minimum 15 mm (solid rod for strength)

2. Finish

Brass: Satin Nickel Finish

SS 304: Brush / Satin Finish

Corrosion-resistant and smooth surface

3. Size

Length: 300 mm (10 inches)

Rod Diameter: Minimum 15 mm

Type: "J" Type Aldrop (hook-type locking mechanism)

4. Make / Brand
EPPW or equivalent approved brand
(e.g., Godrej, Ozone, Hafele – subject to approval)

5. Components
Sliding rod with “J” hook end
Base plates / fixing brackets
Guide clamps
Receiver / locking staple
SS screws and fasteners
All necessary fittings

6. Installation
Fixed on door shutter (generally on main doors / double shutters)
Suitable for wooden / metal doors
Smooth sliding and proper engagement of “J” hook
Proper alignment with receiver for secure locking

7. Workmanship
Installation as per:
Approved drawings
Architect’s sample
Engineer-in-Charge (EIC) instructions
Firm, level, and neat installation
No looseness or misalignment

8. Scope of Work
Supply of aldrop
Complete fixing with all accessories
Includes labour, tools, and incidental materials
Applicable for all heights, all floors, and all locations

9. Measurement & Rate
Unit: Each
Rate includes:
Material
Labour
Transportation
Installation
All fittings and accessories

10. Quality Requirements
Strong and durable construction

Smooth and noiseless operation
Corrosion-resistant
Secure locking mechanism
The rate shall be for a unit of one Number.

Item No.55

Providing and fixing M.S. hanging dustbin at suitable location as per approved by Engineer in charge.

The fixing M.S. hanging dustbin at suitable location as per approved by Engineer in charge.

The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a unit of one Number.

Signature of Contractor

Deputy Executive Engineer
Capital Project Sub Division No. 20
Gandhinagar